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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,760	06/10/2005	Son Nguyen-Kim	13111-00022-US	5548
23416	7590	12/13/2007		
CONNOLLY BOVE LODGE & HUTZ, LLP			EXAMINER	
P O BOX 2207			GILLESPIE, BENJAMIN	
WILMINGTON, DE 19899			ART UNIT	PAPER NUMBER
			1796	
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			12/13/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/538,760	Applicant(s) NGUYEN-KIM ET AL.	
	Examiner Benjamin J. Gillespie	Art Unit 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/10/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

*Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-36, 38, 45-46, and 53-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language "some" renders claims 29-36 indefinite because "some" is a relative term. Claims 45 and 46 are rejected because the language "obtainable" when recited in conjunction with a process renders the claim indefinite since it is not possible to determine with certainty when such a claim is infringed, i.e. exactly when a product is "able" to be made by the claimed method and when it is not. The language consisting of "in the formula III the order of the alkylene oxide units is arbitrary," renders claim 38 indefinite because it is unclear to what extent the polyether is required to have an "arbitrary" distribution of alkylene oxide units, i.e. to what extent could the polyether have a "non-arbitrary" distribution of alkylene oxide units, and still satisfy the claim limitation.

Claims 34-36 and 53-56 provides for the use of "a polymer," but since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 34-36 and 52-56 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See

for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of 35 U.S.C. 103(a) and 102(b) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Piepho et al ('586). Piepho et al teach a allyl functional urethane based on the reaction product of A) isocyanate-functional allyl ether, and B) a polyether glycol, wherein A) is the reaction product of polyisocyanate and a hydroxyl-functional allyl ether, and the NCO:OH ratio for the over composition coincides with applicants' claimed range (Abstract; col 1 lines 65-68; col 2 lines 1-6; col 3 lines 36-40, 65-66).

Claims 30-31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Piepho et al ('586). As previously discussed, Piepho et al teach an allyl functional urethane based on the reaction product of an unsaturated isocyanate-functional intermediate and polyol, however patentees never teach a corresponding glass transition temperature. Nevertheless, when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, it is appropriate for the examiner to make a rejection under both the applicable

sections of 35 U.S.C. 102 and 35 U.S.C. 103 such that the burden is placed upon applicant to provide clear and convincing factual evidence that the respective products do in fact differ in kind. *In re Brown*, 59 CCPA 1063, 173 USPQ 685 (1972); *In re Fessman*, 180 USPQ 324 (CCPA 1974).

Claims 29-32, 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, Jr. ('391) herein referred to as Watson, in view of Carter et al (' 725). Watson teaches an allyl-functional polyether-urethane and method for production comprising the reaction product of A) isocyanate functional unsaturated compounds and B) polyol, wherein A) is the reaction product of polyisocyanate and hydroxyl-functional unsaturated compounds and the ratio of NCO:OH groups coincide with applicants' claimed range (Col 1 lines 60-63; col 2 lines 59-61). Furthermore, applicants teach that the urethanation reaction is produced at about 90°C and preferably in the absence of solvent (Col 1 lines 14-25, 44-47; col 2 lines 51-53). Watson fails however to teach compound A) that is based on allyl functional polyether compounds, glass transition temperatures, or applications that are relevant to applicants' claims.

Carter et al also teach allyl functional polyether-urethanes, wherein the urethane comprised the reaction product of A) isocyanate-functional unsaturated compounds and B) polyol (Col 1 lines 9-13, 50-72). Patentees go on to teach that component A) is preferably based on allyl functional hydroxyl containing polyethers, and the resulting polyurethanes are useful in cosmetic, and agricultural applications (Col 1 lines 19-24; col 2 lines 48-55). Therefore, it would have been obvious to utilize the allyl-functional polyether polyol of Carter et al in the urethane of Watson based on the motivation that both are drawn to allyl functional urethanes and Carter et al teach that urethanes based on allyl-ethers are preferred in agricultural and cosmetic applications.

Finally, while neither Watson nor Carter et al teach glass transition temperatures, based on analogous reactants, methodology, and stoichiometries, the position is taken that the resulting urethane would exhibit the claimed glass transition temperatures.

Claims 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Piepho et al ('586) in view of Carter et al ('725). Aforementioned, Piepho et al teach a allyl functional urethane based on the reaction product of isocyanate-functional allyl compounds and polyether glycol, however patentees fail to teach agricultural or cosmetic applications. Carter et al also disclosed allyl functional urethanes based on the reaction product of unsaturated urethane intermediates and polyol, and in particular patentees teach that the resulting urethane is useful in cosmetic and agricultural applications. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the urethane of Piepho et al in the applications of Carter et al, based on the motivation that to make a claimed compound and thus the prima facie case of obviousness rises from the expectation that compounds similar in structure will have similar properties. *In re Gyurik*, 596 F.2d 1012, 201 USPQ 552 (CCPA 1979).

Claims 29-44, 46, 49-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, Jr. ('391) herein referred to as Watson, in view of Carter et al ('725) and in further view of Kim et al (WO 99/58100), translation provided by 6,579,517. Aforementioned, Watson in view of Carter et al render obvious a cosmetic product comprising an allyl-functional polyether-urethane based on the reaction product of an A) unsaturated isocyanate-functional intermediate and B) polyol, wherein B) consists of polyethers based on ethylene and propylene oxide (Watson; col 2 lines 30-33, 36-38). However, patentees fail to teach polyurethane based on

polysiloxane polyol, additional unsaturated monomers, cosmetic carriers and other additional components.

Kim et al also teach cosmetic compositions comprising unsaturated polyurethanes based on the reaction product of A) polyisocyanate, B) unsaturated hydroxyl-functional compounds, and C) active hydrogen containing polymer, wherein C) consists of polyether polyol, and hydroxyl or amine functional polysiloxane (Abstract; col 9 lines 17-22). Specifically, regarding the polysiloxane, patentees teach that said siloxane shares the same formula as claimed by applicants, and may be reacted to form the urethane in the presence of protic solvent (Col 4 lines 50-54, 63-67; col 6 lines 29-44; col 8 lines 38-44). Kim et al go on to teach that the polyurethane may further comprise unsaturated monomer, such as ethylenically unsaturated mono- and dicarboxylic acids, vinylamides, and ionic group containing compounds (col 9 lines 25-50; col 10 lines 53-58; col 11 lines 25-28). Patentees go on to explain that when the urethane is employed in cosmetic applications, it is preferred to utilize carrier species such as aliphatic hydrocarbons, and include additional components such as antifoamers, perfumes, and colorants, wherein all components of the cosmetic are present in amounts that correspond to applicants' claims (Col 17 lines 19-26; col 18 lines 40-58).

Finally, Kim et al explain that this specific composition results in a cosmetic composition that exhibits superior performance properties, while being easily re-dispersed, which facilitates "washout" and removal (Col 1 lines 17-30; col 4 lines 37-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to arrive at the claimed process and composition based on the motivation that the prior art are all directed to allyl-functional polyether-urethanes and specifically through the incorporation of Kim et al's

teachings the resulting cosmetic composition would exhibit properties that are desirable in such application.

Claims 45, 47, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, Jr. ('391) herein referred to as Watson, in view of Carter et al (' 725) and in further view of Kim et al (WO 99/58100), translation provided by 6,579,517, and Dieing et al (WO 00/49998), translation provided by 6,964,774. Aforementioned, Watson in view of Carter et al and Kim et al render obvious a cosmetic composition comprising a cross-linked polyurethane corresponding to applicants' claims 29-44, 46, and 49-56, however patentees fail to further teach the presence of a starch cross-linker, the pH of the solvent, or a steam distillation or stripping step.

Dieing et al teach a cosmetic composition based on allyl-functional urethanes comprising the reaction product of polyisocyanates, polysiloxanes, and unsaturated hydroxyl-functional compounds (Abstract; col 6 lines 19-27; col 14 lines 41-44; col 4 lines 33-45). Patentees go on to explain that a preferred cross-linking agent for use in the cosmetic composition consists of natural sugars, the polymerization may take place in water, which has a pH of 7, or if polymerized in the presence of solvent the polymer is steam distilled to remove any traces of solvent (Col 11 lines 8, 17-19; col 14 lines 21-24).

Therefore, it would have been obvious to utilize a starch as a cross-linking compound in the polyurethane of Watson based on the motivation that Dieing et al teach it as a preferred cross-linking compound for cosmetic urethanes, and it is *prima facie* obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244. Furthermore, it would have been obvious to utilize solvent that exhibits a pH between applicants



claimed range based on the teaching in Dieing et al that explains water is a suitable solvent, which is commonly known to have a pH of 7, therefore one would reasonably expect other solvents employed to exhibit similar properties so thereby creating a predictable system. Finally, it would have been obvious to include a steam distillation step based on the motivation that Dieing et al teach it is useful in removing traces of solvent, which Watson established is not desirable in the final product due to health and environmental concerns.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number:  
10/538,760  
Art Unit: 1796

Page 9

B. Gillespie

  
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